

## ABSTRACT

Optical bond-wire interconnections between microelectronic chips, wherein optical wires are bonded onto microelectronic chips. Such optical connections offer numerous advantages compared to traditional electrical connections. Among other things, these interconnections are insensitive to electromagnetic interference and need not be located at the edges of a chip but rather can be placed for optimal utility to the circuit function. In addition, such interconnections can be given the same or other pre-specified lengths regardless of the placement in the module and they are capable of signal bandwidths up to 20 Gigahertz without causing a cross-talk problem. A method of fabrication of such optical interconnections using optical fiber, a laser or photodetector and etched mirror and etched V-shaped grooves.